

Natural
Resources
Conservation
Service

Montana Basin Outlook Report February 1, 1997

PLEASE RETURN



Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

Montana State Library

3 0864 1004 8665 6

*For more water supply and resource management information, contact:
See Attached List*

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact the USDA Office of Communications at (202) 720-2791.

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C., 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.



United States Department of Agriculture
Natural Resources Conservation Service (formerly the Soil Conservation Service)
Bozeman, Montana

Where to Get More Information

Beaverhead County

Victor Hager
683-4963

Big Horn County

Dicksie Michael
665-3777

Blaine County

Matthew Crampton
357-2310

Broadwater County

Kelly Morris
266-3146

Carbon County

Gregory Evertz
962-3641

Carter County

Wayne Yost
775-6355

Cascade County

Danny Burgett
727-3603

Choteau County

Dale Krause
622-5627

Custer County

Roger Goff
232-2439

Daniels County

Stanley French
487-2872

Dawson County

Michael Carlson
365-5565

Deer Lodge County

Glen Green
846-1703

Fallon County

ann Fischer
778-2217

Fergus County

Theodore Hawn
538-7401

Flathead County

Mary Pochelon
752-4242

Gallatin County

Gordon Hill
587-6929

Garfield County

Clarence Clayton
557-2232

Glacier County

Bonnie Thies
873-4292

Golden Valley County

John Rouane Jr.
323-2103

Granite County

Annette Johnson
859-3291

Hill County

Karen Hoffman
265-6252

Jefferson County

Laurel Ovitt
287-3215

Judith Basin County

Larry Zarecor
566-2311

Lake County

David Wolf
883-5875

Lewis and Clark County

Nancy Basting
449-5278

Liberty County

Eileen Eide
759-5778

Lincoln County

Angel Rosario
296-2233

Madison County

Mike Barron
842-5741

McCone County

Rusty Irions
485-2660

Meagher County

Otto Ohlson
547-3633

Mineral County

John Blaine
251-4826

Missoula County

John Blaine
251-4826

Musselshell County

John Rouane Jr.
323-2103

Park County

Geri Sullivan
222-2899

Petroleum County

Theodore Hawn
538-7401

Phillips County

Lorna Stolen
654-1334

(over)

Pondera County
Phyllis Philipps
278-3922

Powder River County
Carol Hjilliard
436-2417

Powell County
Glen Green
846-1703

Prairie County
Bob Prongua
637-5381

Ravalli County
Keith Robertson
363-5010

Richland County
Kim Whipple
482-2110

Roosevelt County
Richard Iversen
787-5232

Rosebud County
Stewart Greer
342-5466

Sanders County
Stuart Lomax
826-3701

Sheridan County
Monica Friedrich
765-1801

Silver Bow County
Laurel Ovitt
287-3215

Stillwater County
Philip Sandoval
322-5359

Sweet Grass County
Dan Glasgow
932-5160

Teton County
Kaycee Ferster
466-5722

Toole County
David Pratt
434-5835

Treasure County
Stewart Greer
342-5466

Valley County
Lanny Walker
228-4337

Wheatland County
John Oiestad
632-5534

Wibaux County
Carla Lawrence
778-2217

Yellowstone County
Shad Weber
657-6527

B A S I N S U M M A R Y O F
S N O W C O U R S E D A T A

FEBRUARY 1997

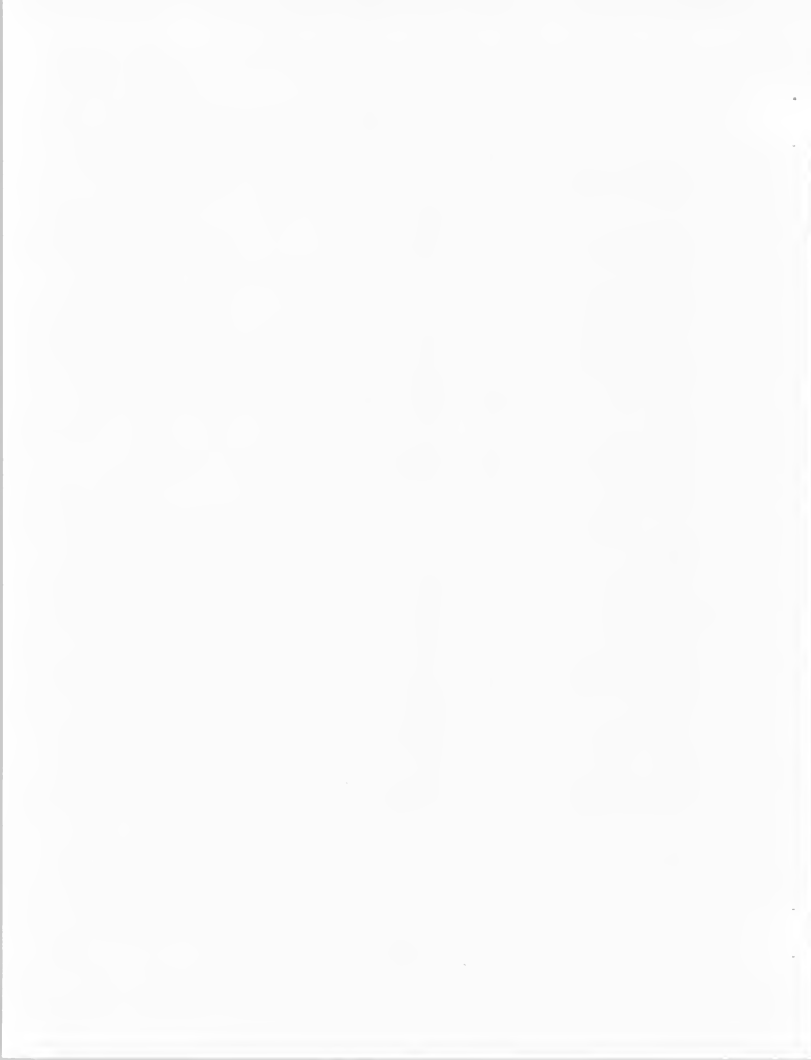
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90

MONTANA						
ABE LINCOLN	4440	2/04/97	68	23.8	12.2	--
ALBRO LAKE PILLOW	8300	2/01/97	---	21.2	--	--
ASHLEY LAKE	4000	1/28/97	34	9.4	4.9	3.9
ASHLEY DIVIDE	4820	1/28/97	36	10.6	5.3	5.0
BADGER PASS PILLOW	6900	2/01/97	---	30.2	25.5	22.8
BANFIELD MTN PILLOW	5600	2/01/97	---	21.3	13.0	13.6
BARKER LAKES PILLOW	8250	2/01/97	---	13.6	10.3	9.4
BASIN CREEK PILLOW	7180	2/01/97	---	7.2	4.6	5.0
BASSOO PEAK	5150	2/03/97	47	14.0	6.4	--
BEAGLE SPGS PILLOW	8850	2/01/97	---	9.8	6.8	5.3
BEAVER CREEK PILLOW	7850	2/01/97	---	23.7	13.6	11.6
BISSON CREEK PILLOW	4920	2/01/97	---	14.5	6.9	6.9
BLACK BEAR PILLOW	7950	2/01/97	---	48.9	32.1	24.5
BLACK PINE PILLOW	7100	2/01/97	---	12.8	11.0	8.0
BLACKTAIL	5650	1/28/97	54	17.6	--	8.9
BLOODY DICK PILLOW	7550	2/01/97	---	15.3	11.7	8.2
BOULDER MTN PILLOW	7950	2/01/97	---	20.2	15.5	12.8
BOX CANYON PILLOW	6700	2/01/97	---	12.4	9.2	7.0
BOXELDER CREEK	5100	1/29/97	27	6.1	1.5	5.8
BRACKETT CR PILLOW	7320	2/01/97	---	21.9	17.2	12.9
BRIDGER BOWL	7250	1/30/97	82	28.7	18.4	17.0
CALVERT CR PILLOW	6430	2/01/97	---	13.4	8.7	6.1
CARROT BASIN PILLOW	9000	2/01/97	---	32.8	23.1	17.3
CHESSMAN RESERVOIR	6200	1/28/97	15	3.4	.8	2.7
CHICKEN CREEK	4060	1/31/97	65	21.0	13.4	10.9
CLOVER MDW PILLOW	8800	2/01/97	---	15.9	13.5	11.5
COLE CREEK PILLOW	7850	2/01/97	---	11.1	13.4	10.2
COMBINATION PILLOW	5600	2/01/97	---	6.0	3.3	3.8
COPPER BOTTOM PILLOW	5200	2/01/97	---	14.3	10.1	7.4
COPPER CAMP PILLOW	6950	2/01/97	---	32.2	28.3	22.6
COPPER MOUNTAIN	7700	1/29/97	45	13.5	7.9	7.0
COYTE HILL	4200	1/31/97	42	14.0	8.0	7.5
CRYSTAL LAKE PILLOW	6050	2/01/97	---	9.8	4.9	8.4
DAISY PEAK	7600	1/29/97	36	8.7	7.2	7.0
DAISY PEAK	7600	1/29/97	36	8.7	7.2	7.0
DALY CREEK PILLOW	5780	2/01/97	---	14.7	8.1	7.8
DARKHORSE LK. PILLOW	8700	2/01/97	---	33.6	26.9	22.0
DEADMAN CR PILLOW	6450	2/01/97	---	10.9	6.4	6.7
DISCOVERY BASIN	7050	1/28/97	45	12.4	9.0	6.8
DIVIDE PILLOW	7800	2/01/97	---	11.3	7.2	6.9
DIX HILL	6400	2/02/97	42	12.6	7.5	8.2
DUPUYER CREEK PILLOW	5750	2/01/97	---	9.4	6.9	7.8
EMERY CREEK PILLOW	4350	2/01/97	---	17.6	7.7	10.9
FISHER CREEK PILLOW	9100	2/01/97	---	43.8	33.4	24.2
FLATTOP MTN PILLOW	6300	2/01/97	---	46.4	40.1	32.3

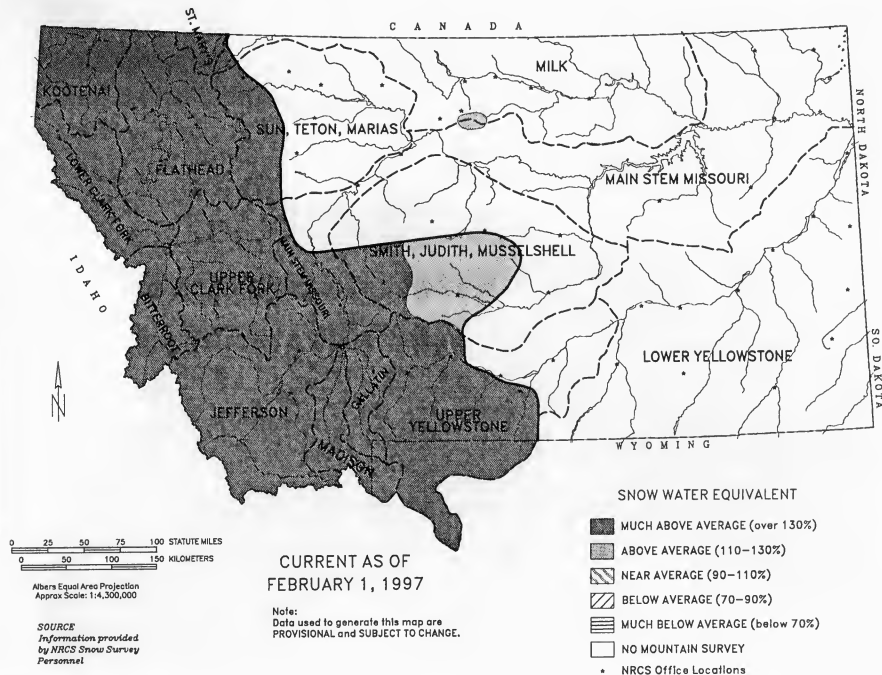
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
FOURTH OF JULY	3450	2/04/97	47	13.1	6.0	6.4
FROHNER MDWS PILLOW	6480	2/01/97	---	7.3	5.0	5.6
GARVER CREEK PILLOW	4250	2/01/97	---	13.6	--	7.3
GRAVE CRK PILLOW	4300	2/01/97	---	17.4	11.3	11.9
HAND CREEK PILLOW	5030	2/01/97	---	14.8	8.2	8.3
HAWKINS LAKE PILLOW	6450	2/01/97	---	25.2	19.4	19.3
HEBGEN DAM	6550	1/30/97	47	13.1	6.9	8.3
HELL ROARING DIVIDE	5770	1/31/97	89	28.0	23.9	20.5
HERRIG JUNCTION	4850	1/31/97	84	27.8	23.0	16.7
HOLBROOK	4530	1/27/97	48	14.3	7.5	7.2
HOODOO BASIN PILLOW	6050	2/01/97	---	50.2	29.7	31.0
HOODOO CREEK	5900	1/29/97	129	43.6	29.2	30.3
INTERGAARD	6450	1/28/97	34	9.9	4.6	5.2
JOHNSON PARK	6450	1/29/97	29	5.4	3.4	4.8
KIWANIS CAMP	3720	1/29/97	10	2.9	.9	1.6
KRAFT CREEK PILLOW	4750	2/01/97	---	20.2	9.7	11.4
LAKEVIEW RDG. PILLOW	7400	2/01/97	---	11.4	7.0	8.3
LEMHI RIDGE PILLOW	8100	2/01/97	---	10.6	8.5	6.9
LICK CREEK PILLOW	6860	2/01/97	---	10.9	5.8	8.1
LONE MOUNTAIN PILLOW	8880	2/01/97	---	21.0	17.1	11.5
LOWER TWIN PILLOW	7900	2/01/97	---	20.1	15.1	12.3
LUBRECHT PILLOW	4680	2/01/97	---	8.1	4.1	4.5
LUBRECHT FOREST NO 3	5450	1/31/97	32	9.0	4.5	5.0
LUBRECHT FOREST NO 4	4650	1/31/97	22	6.7	2.4	2.7
LUBRECHT FOREST NO 6	4040	1/31/97	26	7.4	3.0	3.2
LUBRECHT HYDROPLT	4200	1/31/97	32	8.8	5.1	5.4
MADISON PLT PILLOW	7750	2/01/97	---	31.9	19.4	16.1
MANY GLACIER PILLOW	4900	2/01/97	---	18.1	9.3	11.4
MARIAS PASS	5250	1/31/97	65	23.4	10.0	11.2
MAYNARD CREEK	6210	1/30/97	55	17.3	7.5	9.7
MONUMENT PK PILLOW	8850	2/01/97	---	26.8	18.6	13.9
MOSS PEAK PILLOW	6780	2/01/97	---	44.0	30.7	24.4
MT LOCKHART PILLOW	6400	2/01/97	---	20.1	16.5	14.0
MULE CREEK PILLOW	8300	2/01/97	---	17.2	14.9	10.2
NEVADA CREEK PILLOW	6480	2/01/97	---	15.2	10.4	8.6
NEVADA RIDGE PILLOW	7020	2/01/97	---	14.4	12.7	11.1
NEW WORLD	6900	1/31/97	51	16.6	9.0	9.6
NEWTON MOUNTAIN	5600	1/28/97	96	37.4	22.7	22.2
NEZ PERCE CMP PILLOW	5650	2/01/97	---	16.5	12.5	9.8
NEZ PERCE CREEK	6600	1/29/97	36	10.0	3.0	4.5
NOISY BASIN PILLOW	6040	2/01/97	---	46.8	30.4	26.2
N.F. ELK CR PILLOW	6250	2/01/97	---	13.6	9.2	8.1
NF JOCKO PILLOW	6330	2/01/97	---	44.1	33.8	28.6
N.E. ENTRANCE PILLOW	7350	2/01/97	---	9.3	8.2	6.4
OPHIR PARK	7150	2/02/97	52	15.9	12.6	11.2
PETERSON MEADOWS	7200	1/28/97	39	10.2	6.4	6.6
PICKFOOT CRK PILLOW	6650	2/01/97	---	11.7	8.3	7.1
PIKE CREEK PILLOW	5930	2/01/97	---	28.7	19.9	17.1
PIPESTONE PASS	7200	1/28/97	24	6.8	2.2	3.3
PLACER BASIN PILLOW	8830	2/01/97	---	18.8	14.9	12.4
PORCUPINE PILLOW	6500	2/01/97	---	9.7	4.0	4.8

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
RED TOP	5260	1/28/97	83	28.8	19.6	18.4
ROCKER PEAK PILLOW	8000	2/01/97	---	13.3	11.1	9.8
ROCKY BOY PILLOW	4700	2/01/97	---	4.2	3.0	3.6
ROCKY BOY	4700	1/29/97	16	3.4	1.5	3.2
SACAJAWEA	6550	1/30/97	51	16.8	--	--
SADDLE MTN PILLOW	7900	2/01/97	---	28.6	25.6	17.0
SHORT CREEK PILLOW	7000	2/01/97	---	5.2	3.6	3.6
SHOWER FALLS PILLOW	8100	2/01/97	---	22.5	17.1	14.8
SILVER RUN PILLOW	6630	2/01/97	---	4.8	4.3	3.6
SKALKAHO PILLOW	7260	2/01/97	---	28.0	22.7	15.8
S.F. SHIELDS PILLOW	8100	2/01/97	---	21.6	13.6	10.7
SPOTTED BEAR MTN.	7000	1/27/97	54	15.2	11.8	10.3
SPUR PARK PILLOW	8100	2/01/97	---	19.2	16.6	14.8
SQUAW PEAK PILLOW	6150	2/01/97	---	20.0	10.9	9.9
STAHL PEAK PILLOW	6030	2/01/97	---	33.9	34.5	23.5
STAHL PEAK	6030	1/28/97	103	35.5	--	26.4
STEMPLE PASS	6600	1/30/97	39	10.3	5.8	--
STORM LAKE	7780	1/28/97	45	12.9	9.5	8.7
STRYKER BASIN	6180	1/31/97	98	34.6	29.6	21.6
STUART MOUNTAIN	7400	1/27/97	104	37.1	29.0	21.2
STUART MOUNTAIN PILL	7400	2/01/97	---	34.8	26.8	20.3
SUCKER CREEK	3960	1/29/97	4	.4	.7	.5
TAYLOR ROAD	4080	1/29/97	16	3.9	1.0	2.9
TEN MILE LOWER	6600	1/29/97	29	7.2	3.3	5.0
TEN MILE MIDDLE	6800	1/29/97	37	9.7	7.6	7.6
TEPEE CREEK PILLOW	8000	2/01/97	---	14.7	9.3	8.6
TIZER BASIN PILLOW	6840	2/01/97	---	8.2	7.4	7.2
TRINKUS LAKE	6100	1/27/97	133	49.1	28.0	25.0
TRUMAN CREEK	4060	2/02/97	30	8.4	--	3.2
TV MOUNTAIN	6800	2/01/97	---	20.4E	14.1	12.0
TWELVEMILE PILLOW	5600	2/01/97	---	20.5	10.4	12.5
TWENTY-ONE MILE	7150	1/30/97	66	20.6	12.6	11.7
TWIN LAKES PILLOW	6400	2/01/97	---	45.7	31.5	26.3
UPPER HOLLAND LAKE	6200	1/27/97	108	34.2	25.6	23.4
WALDRON PILLOW	5600	2/01/97	---	12.7	8.0	7.8
WARM SPRINGS PILLOW	7800	2/01/97	---	21.7	21.7	14.1
WEASEL DIVIDE	5450	1/29/97	93	32.0	28.0	21.8
WEST YELLOWSTONE	6700	1/30/97	46	12.5	6.6	7.8
WHISKEY CREEK PILLOW	6800	2/01/97	---	19.7	11.7	11.2
WHITE MILL PILLOW	8700	2/01/97	---	30.1	24.6	16.8
WOOD CREEK PILLOW	5960	2/01/97	---	11.4	6.6	7.1

(d) Denotes discontinued site.

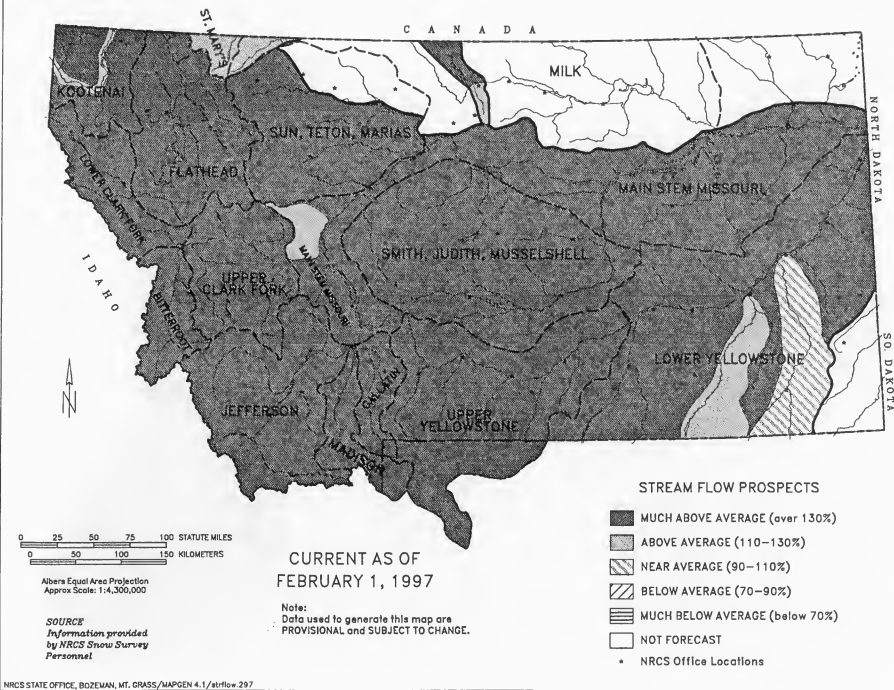


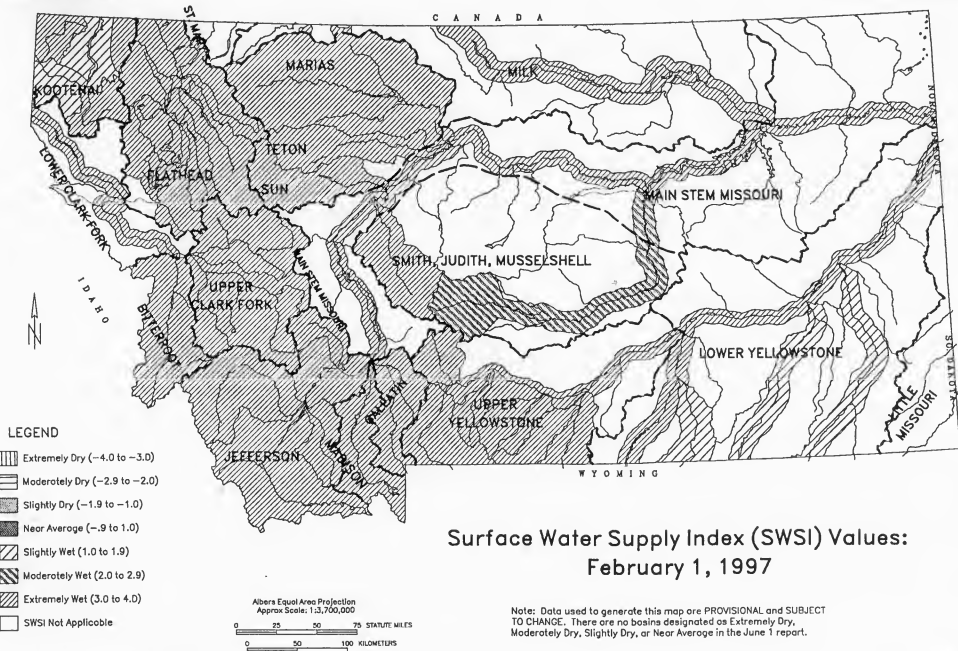
MOUNTAIN SNOWWATER EQUIVALENT FOR MONTANA



STREAM FLOW PROSPECTS FOR MONTANA

Spring and Summer Period







Montana Water Supply Outlook Report as of February 1, 1997

January storms tracked mainly along the Continental Divide with the southwest, central, and southcentral regions getting most of the storm activity. Temperatures during the January remained very cold mainly east of the Divide as arctic air move south, southeast out of Canada. There was some valley melting during January, with only settling of the mountain snowpack.

Snowpack

As of February 1, mountain snow water content in Montana was 165 percent of average and 144 percent of last year. Unlike last year, the mountain snowpack is well above average at all elevations. Last year the high elevation snowpack was above to well above average and the low to mid elevation snowpack was average to below average.

With about 40 percent of the normal snow accumulation period remaining, most areas remain well above average and several major river basins continue to set new snow water content records. New February 1 snowpack records have occurred in the Kootenai, Jefferson, Madison, Gallatin, Upper Yellowstone, and Lower Yellowstone River Basins.

West of the Continental Divide, snow water content was 161 percent of average and 145 percent of last year. East of the Continental Divide snow water content was 162 percent of average and 135 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	162	146
KOOTENAI	153	144
FLATHEAD	165	141
UPPER CLARK FORK	160	137
BITTERROOT	171	142
LOWER CLARK FORK	164	163
MISSOURI	163	149
MISSOURI HEADWATERS	173	151
JEFFERSON	168	142
MADISON	181	150
GALLATIN	174	153
MISSOURI MAINSTEM	143	146
HEADWATERS MAINSTEM	140	134
SMITH-JUDITH-MUSSELSHELL	140	143
SUN-TETON-MARIAS	155	146
MILK	119	209
ST. MARY	148	131
ST. MARY & MILK	139	149
YELLOWSTONE	161	124
UPPER YELLOWSTONE	177	129
LOWER YELLOWSTONE (WYOMING)	150	118
WIND	167	124
SHOSHONE	177	113
BIGHORN	148	114
TONGUE	123	109
POWDER	124	129

Precipitation

January precipitation about the state was 121 percent of average and 98 percent of last year, while the water year precipitation was 158 percent of average and 113 percent of last year.

West of the Continental Divide, January precipitation was 108 percent of average 85 percent of last year and water year precipitation was 157 percent of average and 104 percent of last year. East of the Divide, January precipitation was 133 percent of average and 110 percent of last year and water year precipitation was 158 percent of average and 121 percent of last year.

RIVER BASIN	JANUARY % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	108	157
KOOTENAI	98	151
FLATHEAD	105	160
UPPER CLARK FORK	117	157
BITTERROOT	119	162
LOWER CLARK FORK	98	150
MISSOURI	125	154
JEFFERSON	149	161
MADISON	143	178
GALLATIN	168	168
MISSOURI MAINSTEM	88	132
SMITH-JUDITH-MUSSELSHELL	94	138
SUN-TETON-MARIAS	84	136
MILK	67	108
ST. MARY	118	152
YELLOWSTONE	147	159
UPPER YELLOWSTONE	159	174
LOWER YELLOWSTONE	136	146
WIND	127	152
SHOSHONE	165	189
BIGHORN	129	120
TONGUE	147	121
POWDER	97	117

Reservoirs

Major reservoir storage statewide was 1 percent below average and 17 percent below last year.

Reservoir storage west of the Continental Divide was 4 percent below average and 23 percent below last year. East of the Divide, reservoir storage was 8 percent above average and 5 percent below last year.

Many reservoirs in southwest and southcentral Montana will be drawn down earlier than normal this year in anticipation of the high spring inflows from record snowpacks. Recreationist planning on using reservoirs in these regions should plan accordingly and those fishing, canoeing, or boating below the reservoirs need to be alert for changing releases from the reservoirs. When possible, reservoir owners should be contacted to obtain their management plans until the spring runoff peaks have passed.

RIVER BASIN	% OF CAPACITY	% OF AVERAGE
COLUMBIA	96	77
KOOTENAI	105	86
FLATHEAD	90	71
UPPER CLARK FORK	110	88
BITTERROOT	78	58

Reservoirs (continued)

RIVER BASIN	% OF CAPACITY	% OF AVERAGE
LOWER CLARK FORK	98	95
MISSOURI	104	92
JEFFERSON	113	99
MADISON	103	102
GALLATIN	192	--
MISSOURI MAINSTEM	97	94
SMITH-JUDITH-MUSSELSHELL	104	73
SUN-TETON-MARIAS	119	85
MILK	124	102
ST. MARY	122	96
YELLOWSTONE	98	97
UPPER YELLOWSTONE	104	110
LOWER YELLOWSTONE	98	97

Streamflow

Streamflow forecasts across Montana were 143 percent of average and 124 percent of last years forecasts. Several forecasts are near or above previous maximum flows. Note the streamflow section in each of the major river basin write ups for details.

West of the Continental Divide, streamflows were forecast to be 143 percent of average and 120 percent of last years forecasts. East of the Divide, streamflows were forecast to be 154 percent of average and 132 percent of last years forecasts.

RIVER BASIN	FORECASTS	FORECASTS
	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	143	120
KOOTENAI	120	100
FLATHEAD	133	113
UPPER CLARK FORK	158	140
BITTERROOT	152	120
LOWER CLARK FORK	150	128
MISSOURI	155	139
JEFFERSON	166	141
MADISON	144	128
GALLATIN	150	139
MAINSTEM MISSOURI	171	146
SMITH-JUDITH-MUSSELSHELL	147	107
SUN-TETON-MARIAS	147	132
MILK	126	125
ST. MARY	121	113
ST. MARY & MILK	124	119
YELLOWSTONE	152	124
UPPER YELLOWSTONE	149	123
LOWER YELLOWSTONE	156	124

NOTE: The **FORECAST AS % OF LAST YEAR** column above, is this years forecast as a percnet of last years forecast, not of what actually occurred.

Surface Water Supply Index

The Surface Water Supply Index (SWSI) is an indicator of surface water supply conditions for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING

SURFACE WATER CONDITION

+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

SWSI

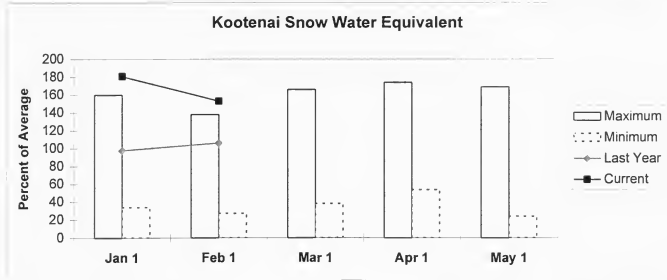
Basin

+1.9	Kootenai River at Ft. Steele (Kootenai in Canada)
+3.5	Tobacco River
+1.5	Kootenai Ft. Steele to Libby Dam
+1.4	Kootenai River below Libby Dam
+3.9	Fisher River
+3.3	Yaak River
+3.8	North Fork Flathead River
+3.7	Middle FORK Flathead River
+3.6	South Fork Flathead River
+3.7	Flathead River at Columbia Falls
+3.6	Stillwater/Whitefish Rivers
+3.8	Swan River
+3.3	Flathead River at Polson
+3.9	Mission Valley
+3.6	Little Bitterroot River
+3.4	Clark Fork River above Rock Creek
+3.4	Blackfoot River
+3.4	Clark Fork River above Missoula
+3.8	Bitterroot River
+3.5	Clark Fork River below Bitterroot River
+3.4	Clark Fork River below Flathead River
+3.5	Beaverhead River
+3.1	Ruby River
+3.6	Big Hole River
+3.0	Boulder River (Jefferson)
+3.5	Jefferson River
+4.0	Madison River
+3.7	Gallatin River
+3.7	Missouri River above Canyon Ferry
+3.7	Missouri River below Canyon Ferry
+3.4	Smith River
+3.2	Sun River
+3.0	Teton River
+3.3	Birch/Dupuyer Creeks
+3.4	Marias River
+2.4	Musselshell River
+3.4	Missouri River above Ft. Peck
+3.4	Missouri River below Ft. Peck
+3.0	Milk River

+4.0	Yellowstone River above Livingston
+3.7	Shields River
+4.0	Boulder River (Yellowstone)
+3.8	Stillwater River
+3.8	Rock/Red Lodge Creeks
+4.0	Clarks Fork River
+4.0	Yellowstone River above Bighorn River
+3.6	Bighorn River below Bighorn Lake
+1.9	Little Bighorn River
+3.6	Yellowstone River below Bighorn River
+1.6	Tongue River
+1.9	Powder River

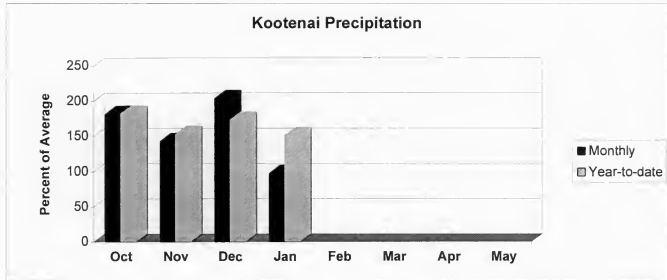
Kootenai River Basin in Montana

Snowpack conditions in the Kootenai River Basin in Montana and Canada were well above average. Snow water content for the Kootenai in Montana was 53 percent above average and 44 percent above last year. This has set a new that was previously set in 1972 and was 38 percent above average. Snow water content for the Kootenai in Canada was 28 percent above average and 1 percent below last year.



January maximum swe was established in 1985 and minimum was in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1974 and minimum swe was in 1977; May maximum swe was in 1974 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during January was average and 20 percent below last year. Valley precipitation was 36 percent below average and 47 percent below last year. Water year precipitation for the basin, beginning October 1, 1996, was 51 percent above average and 1 percent above last year.



Lake Kootenai storage on the last day of January was 5 percent above average and 14 percent below last year.

Streamflows, for the period April through July, are forecast to be 20 percent above average and the same as last years forecasts. The Fisher River near Libby is forecast to exceed the previous maximum flow for the April-July period. The previous record was 385,200 acre-feet in 1974.

Surface Water Supply Indexes (SWSI's) were +1.9 in the Kootenai at Ft. Steele (Kootenai in Canada); +3.5 in the Tobacco River; +1.5 in the Kootenai Ft. Steele to Libby Dam; +1.4 in the Kootenai River below Libby Dam; +3.9 in the Fisher River; and +3.3 in the Yaak River.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
TOBACCO RIVER nr Eureka	APR-JUL	174	189	200	150	211	226	133
	APR-SEP	190	208	220	150	232	250	147
LIBBY RES Inflow (1,2)	APR-JUL	5365	6262	6670	115	7078	7975	5779
	APR-SEP	6289	7342	7820	116	8298	9351	6772
FISHER RIVER near Libby	APR-JUL	359	383	400	171	417	441	234
	APR-SEP	383	408	425	170	442	467	250
YAAK RIVER near Troy	APR-JUL	688	731	760	157	789	832	483
	APR-SEP	717	760	790	156	820	863	505
KOOTENAI at Leonia (1,2)	APR-JUL	6851	7985	8500	118	9015	10149	7199
	APR-SEP	7873	9177	9770	118	10363	11667	8275

KOOTENAI RIVER BASIN in Montana					KOOTENAI RIVER BASIN in Montana			
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites		
		This Year	Last Year	Avg		This Year as % of Last Yr	Average	
LAKE KOOCANUSA	5748.0	2499.0	2922.0	2381.0	KOOTENAI in CANADA	17	97	127
					KOOTENAI MAINTSTEM	2	171	151
					TOBACCO	3	113	146
					FISHER	1	180	178
					YAAK	4	154	158
					KOOTENAI in MONTANA	10	144	153
					abv BONNERS FERRY	27	116	139

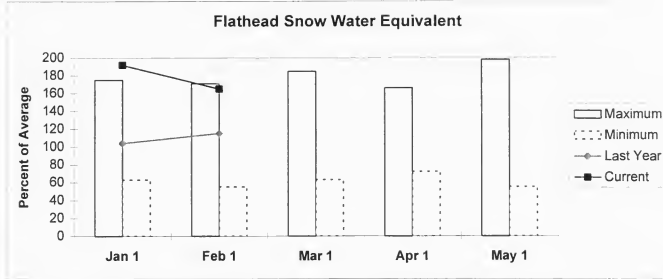
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

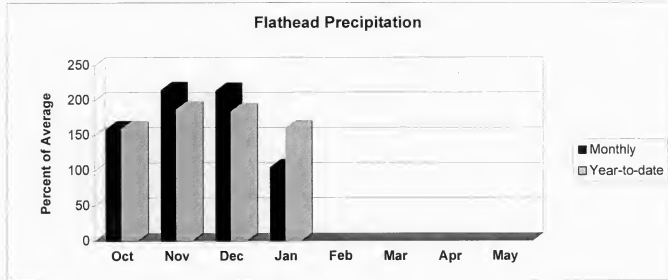
Flathead River Basin

Snowpack conditions in the Flathead River Basin of Montana and Canada were well above average. Snow water content for the Flathead in Montana was 65 percent above average and 41 percent above last year. Snow water content for the North Fork Flathead in Canada was 66 percent above average and 40 percent above last year.



January maximum swe was established in 1991 and minimum was in 1988; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum was in 1992; May maximum swe was in 1972 and minimum was in 1992; and June maximum swe was in 1974 and minimum was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during January was 7 percent above average and 20 percent below last year. Valley precipitation during January was 14 percent below average and 29 percent below last year. Water year precipitation for the basin, beginning October 1, 1996, was 60 percent above average and 4 percent above last year.



Reservoir storage on the last day of January was 10 percent below average and 29 percent below last year. Combined Camas reservoir storage was 61 percent above average and 69 percent above last year; combined Mission Valley reservoir storage was 17 percent below average and 27 percent below last year; Hungry Horse storage was 16 percent below average and 30 percent below last year; and Flathead Lake storage was 3 percent above average and 28 percent below last year.

Streamflows, for the period April through July, are forecast to be 33 percent above average and 13 percent above last years forecasts. The Stillwater near Whitefish is forecast to exceed the previous record of 329,300 acre-feet in 1974.

Surface Water Supply Indexes (SWSI's) were +3.8 in the North Fork Flathead River; +3.7 in the Middle Fork Flathead River; +3.6 in the South Fork Flathead River; +3.7 in the Flathead River at Columbia Falls; +3.6 in the Stillwater/Whitefish Rivers; +3.8 in the Swan River; +3.3 in the Flathead River at Polson; +3.9 in the Mission Valley; and +3.6 in the Little Bitterroot River.

FLATHEAD RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		>>===== Wetter =====>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
NF FLATHEAD nr Columbia Falls	APR-JUL	1954	2071	2150	129	2229	2346	1662
	APR-SEP	2170	2295	2380	130	2465	2590	1836
MF FLATHEAD nr West Glacier	APR-JUL	1895	2041	2140	131	2239	2385	1638
	APR-SEP	2077	2234	2340	131	2446	2603	1788
HUNGRY HORSE Reservoir Inflow (1,2)	APR-JUL	2344	2610	2730	133	2850	3116	2051
	APR-SEP	2492	2773	2900	133	3027	3308	2184
FLATHEAD at Columbia Falls (2)	APR-JUL	6369	6834	7150	130	7466	7931	5482
	APR-SEP	6937	7439	7780	131	8121	8623	5960
STILLWATER nr Whitefish	APR-JUL	291	317	335	177	353	379	189
	APR-SEP	327	355	375	179	395	423	209
WHITEFISH nr Kalispell	APR-JUL	150	162	170	164	178	190	104
	APR-SEP	167	181	190	164	199	213	116
SWAN RIVER near Bigfork	APR-JUL	675	734	775	133	816	875	583
	APR-SEP	788	858	905	136	952	1022	665
FLATHEAD Lake Inflow (1,2)	APR-JUL	7451	8296	8680	136	9064	9909	6390
	APR-SEP	8076	8993	9410	136	9827	10744	6926

FLATHEAD RIVER BASIN Reservoir Storage (1000 AF) - End of January					FLATHEAD RIVER BASIN Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CAMAS (4)	45.2	31.3	18.5	19.4	NORTH FORK FLATHEAD in CA	0	0	0
MISSION VALLEY (8)	100.0	30.2	41.3	36.2	NORTH FORK FLATHEAD in MT	7	120	147
HUNGRY HORSE	3451.0	1984.0	2820.0	2362.0	MIDDLE FORK FLATHEAD	5	142	155
FLATHEAD LAKE	1791.0	1124.0	1572.0	1095.0	SOUTH FORK FLATHEAD	6	160	172
					STILLWATER-WHITEFISH	7	135	168
					SWAN	6	151	172
					MISSION VALLEY	2	156	187
					LITTLE BITTERROOT-ASHLEY	2	196	225
					JOCKO	4	139	169
					FLATHEAD in MONTANA	28	142	165
					FLATHEAD BASIN	28	142	165

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

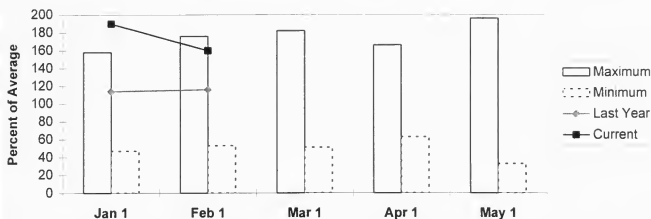
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Upper Clark Fork River Basin

Snowpack conditions in the Upper Clark Fork River Basin were well above average. Snow water content was 60 percent above average and 37 percent above last year.

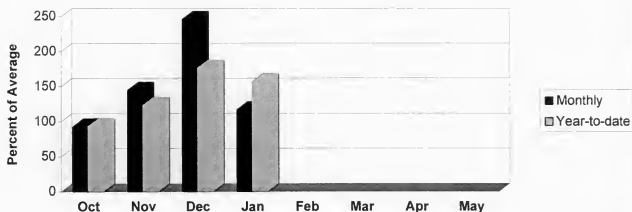
Upper Clark Fork Snow Water Equivalent



January maximum swe was established in 1978 and minimum swe was in 1977; February maximum was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1994; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1975 and minimum swe was in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during January was 15 percent above average and 10 percent below last year. Valley precipitation during January was 31 percent above average and the same as last year. Water year precipitation for the basin, beginning October 1, 1996, was 57 percent above average and 12 percent above last year.

Upper Clark Fork Precipitation



Reservoir storage on the last day of January was 10 percent above average and 12 percent below last year. Georgetown Lake storage was 9 percent above average and 4 percent above last year; Lower Willow Creek storage was 7 percent above average and 60 percent below last year; and Nevada Creek storage was 16 percent above average and 42 percent below last year.

Streamflows, for the period April through July, are forecast to be 58 percent above average and 40 percent above last years forecasts. The Middle Fork Rock Creek near Philipsburg April-July is forecast to exceed the previous record of 98,450 acre-feet in 1965; Clearwater near Clearwater April-July is forecast to exceed the previous record of 226,100 acre-feet in 1976; and the Blackfoot near Bonner is forecast to exceed the previous record of 1,317,400 acre-feet in 1972.

Surface Water Supply Indexes (SWSI's) were +3.4 in the Clark Fork River above Rock Creek; +3.4 in the Blackfoot River; and +3.4 in the Clark Fork River above Missoula.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>		Chance Of Exceeding *				30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WARM SPRINGS CK at Anaconda (2)	APR-JUL	38	45	50	132	55	62	38
	APR-SEP	47	55	60	128	66	74	47
LITTLE BLACKFOOT nr Garrison	APR-JUL	60	90	110	133	130	160	83
	APR-SEP	67	99	120	135	141	173	89
FLINT CK nr Southern Cross (2)	APR-JUL	13.5	17.4	20	141	23	27	14.2
	APR-SEP	15.8	21	24	144	27	32	16.7
FLINT CK bl Boulder Ck	APR-JUL	58	72	82	144	92	106	57
	APR-SEP	75	92	104	143	116	133	73
LOWER WILLOW CK RES Inflow	APR-JUL	15.4	19.3	22	157	25	29	14.0
	APR-SEP	16.2	20	23	155	26	30	14.8
MP ROCK CREEK nr Philipsburg	APR-JUL	86	97	105	159	113	124	66
	APR-SEP	94	107	115	155	123	136	74
ROCK CREEK near Clinton	APR-JUL	384	438	475	161	512	566	296
	APR-SEP	424	484	525	158	566	626	333
NEVADA CK nr Finn	APR-JUL	18.0	22	25	131	28	32	19.1
	APR-SEP	19.6	24	27	129	30	34	21
CLEARWATER nr Clearwater	APR-JUL	248	264	275	160	286	302	172
	APR-SEP	262	279	290	160	301	318	181
BLACKFOOT RIVER near Bonner	APR-JUL	1147	1256	1330	159	1404	1513	835
	APR-SEP	1281	1400	1480	160	1560	1679	926
CLARK FORK ab Milltown	APR-JUL	774	927	1030	158	1133	1286	652
	APR-SEP	908	1076	1190	158	1304	1472	755
CLARK FORK ab Missoula	APR-JUL	1977	2205	2360	159	2515	2743	1487
	APR-SEP	2253	2501	2670	159	2839	3087	1681

UPPER CLARK FORK RIVER BASIN					UPPER CLARK FORK RIVER BASIN			
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GEORGETOWN LAKE	31.0	29.4	28.2	27.0	CLARK FORK abv FLINT CRK	10	128	145
LOWER WILLOW CREEK	4.9	1.6	4.0	1.5	FLINT CREEK	6	147	164
NEVADA CREEK	12.6	5.0	8.6	4.3	ROCK CREEK	3	132	164
					CLARK FORK abv BLACKFOOT	16	133	155
					BLACKFOOT	15	141	163
					UPPER CLARK FORK BASIN	28	137	160

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

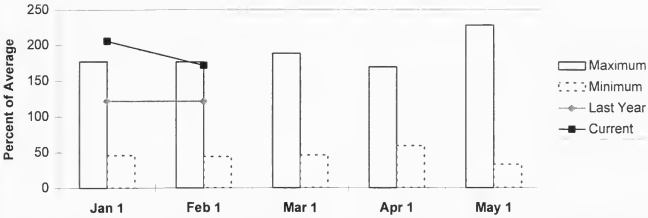
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Bitterroot River Basin

Snowpack conditions in the Bitterroot River Basin were well above average. Snow water content was 71 percent above average and 42 percent above last year.

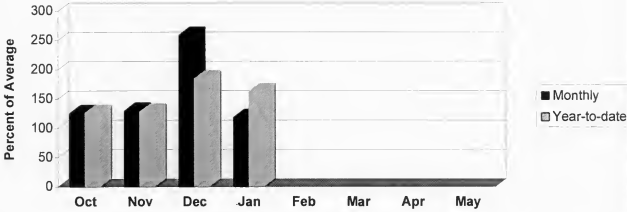
Bitterroot Snow Water Equivalent



January maximum swe was established in 1965 and minimum swe in 1977; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1977; May maximum swe was in 1972 and minimum swe was in 1987; and June maximum swe was 1972 and 1974 and minimum swe was in 1987 and 1992. Average is for the period 1961 through 1990.

Mountain precipitation during January was 19 percent above average and 2 percent above last year. Valley precipitation during January was 17 percent above average and 17 percent below last year. Water year precipitation for the basin, beginning October 1, 1996, was 62 percent above average and 2 percent above last year.

Bitterroot Precipitation



Reservoir storage on the last day of January was 22 percent below average and 42 percent below last year. Painted Rocks Lake storage was 56 percent below average and 63 percent below last year; Como storage was 16 percent above average and 23 percent below last year.

Streamflows, for the period April through July, are forecast to be 52 percent above average and 20 percent above last years forecasts.

Surface Water Supply Index (SWSI) was +3.8 in the Bitterroot River.

BITTERROOT RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WF BITTERROOT nr Conner (2)	APR-JUL	198	223	240	158	257	282	152
	APR-SEP	216	242	260	157	278	304	166
BITTERROOT nr Darby	APR-JUL	632	702	750	153	798	868	491
	APR-SEP	704	776	825	153	874	946	540
ROCK CK nr Darby (2)	APR-JUL	96	105	110	139	116	124	79
	APR-SEP	101	109	115	139	121	129	83
SKALKAGO CK nr Hamilton	APR-JUL	55	61	65	141	69	75	46
	APR-SEP	64	70	75	142	80	86	53
BURNT FORK CK nr Stevensville (2)	APR-JUL	32	37	40	138	43	48	29
	APR-SEP	39	44	48	141	52	57	34
BITTERROOT at Missoula	APR-JUL	1730	1885	1990	153	2095	2250	1301
	APR-SEP	1896	2059	2170	153	2281	2444	1418

BITTERROOT RIVER BASIN					BITTERROOT RIVER BASIN			
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
PAINTED ROCKS LAKE	31.7	5.6	15.1	12.7	WEST FORK BITTERROOT	2	118	168
COMO	34.9	12.9	16.7	11.1	EAST SIDE BITTERROOT	3	126	176
					WEST SIDE BITTERROOT	3	157	169
					BITTERROOT BASIN	7	142	171

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

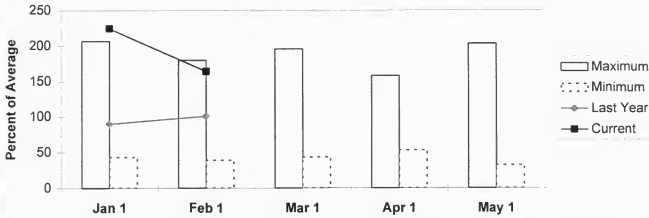
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Lower Clark Fork River Basin

Snowpack conditions in the Lower Clark Fork River Basin were well above average. Snow water content was 64 percent above average and 63 percent above last year.

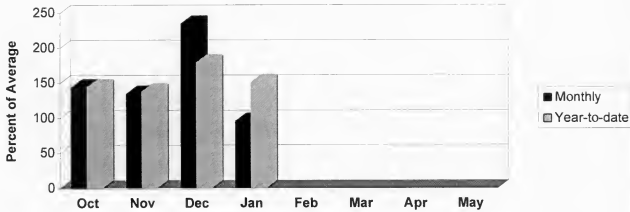
Lower Clark Fork Snow Water Equivalent



January maximum swe was established in 1985 and minimum swe was in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum swe was in 1981; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1977. Average is for the period 1961 through 1990.

Mountain precipitation during January was 4 percent below average and 26 percent below last year. Valley precipitation during January was 7 percent above average and 20 percent below last year. Water year precipitation for the basin, beginning October 1, 1996, was 50 percent above average and 1 percent below last year.

Lower Clark Fork Precipitation



Noxon Rapids storage on the last day of January was 2 percent below average and 5 percent below last year.

Streamflows, for the period April through July, are forecast to be 50 percent above average and 28 percent above last years forecasts.

Surface Water Supply Indexes (SWSI's) were +3.5 in the Clark Fork River below Bitterroot River and +3.4 in the Clark Fork River below Flathead River.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		>>>> Wetter ----->>>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable)	(% AVG.)	(1000AF)	(1000AF)	
CLARK FORK ab Missoula	APR-JUL	1977	2205	2360	159	2515	2743	1487
	APR-SEP	2253	2501	2670	159	2839	3087	1681
CLARK FORK bl Missoula	APR-JUL	3761	4112	4350	156	4589	4940	2788
	APR-SEP	4204	4583	4840	156	5097	5476	3099
CLARK FORK at St. Regis (1)	APR-JUL	4145	5166	5630	153	6094	7115	3686
	APR-SEP	4601	5735	6250	153	6765	7899	4095
CLARK FORK nr Plains (1,2)	APR-JUL	11701	13763	14700	141	15637	17699	10450
	APR-SEP	12803	15070	16100	140	17130	19397	11470
THOMPSON RIVER nr Thompson Falls	APR-JUL	235	268	290	136	312	345	214
	APR-SEP	261	296	320	133	344	379	240
PROSPECT CREEK at Thompson Falls	APR-JUL	163	179	190	155	201	217	123
	APR-SEP	172	189	200	152	211	228	132
CLARK FK at Whitehorse Rpd (1,2)	APR-JUL	12662	15026	16100	137	17174	19538	11730
	APR-SEP	13917	16519	17700	137	18881	21483	12910

LOWER CLARK FORK RIVER BASIN Reservoir Storage (1000 AF) - End of January					LOWER CLARK FORK RIVER BASIN Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
NOKON RAPIDS	335.0	307.9	324.4	314.2	LOWER CLARK FORK	8	163	164
					CLARK FORK BASIN	35	147	161
					abv PEND ORIELLE LKE	64	144	163
					COLUMBIA in MONTANA	70	146	162
					COLUMBIA RIVER BASIN	87	136	156

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

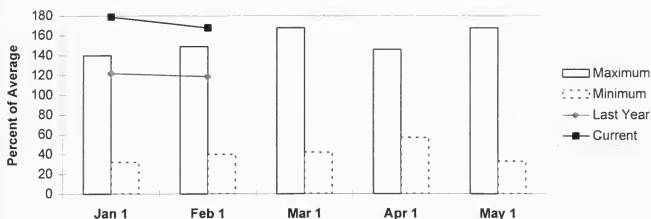
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

Jefferson River Basin

Snowpack conditions in the Jefferson River Basin were well above average. Snow water content was 68 percent above average and 42 percent above last year. This has set a new record that was previously set in 1969 and was 49 percent above average.

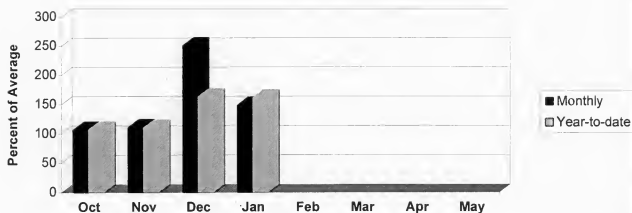
Jefferson Snow Water Equivalent



January maximum swe was established in 1976 and minimum swe was in 1977; February maximum swe was in 1969 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum was in 1977; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1982 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during January was 43 percent above average and 25 percent above last year. Valley precipitation during January was 118 percent above average and 38 percent above last year. Water year precipitation for the basin, beginning October 1, 1996, was 61 percent above average and 25 percent above last year.

Jefferson Precipitation



Reservoir storage on the last day of January was 13 percent above average and 1 percent below last year. Lima storage was 40 percent above average and 4 percent below last year; Clark Canyon storage was 8 percent above average and 1 percent above last year; and Ruby River storage was at average and 7 percent below last year.

Streamflows, for the period April through July, are forecast to be 66 percent above average and 41 percent above last years forecasts. The Jefferson River near Three Forks is forecast to be set a new April-July record of 1,560,000 acre-feet. The previous record was 1,554,600 set in 1984.

Surface Water Supply Indexes (SWSI's) were +3.5 in the Beaverhead River; +3.1 in the Ruby River; +3.6 in the Big Hole River; +3.0 in the Boulder River; and +3.5 for the Jefferson River as a whole.

JEFFERSON RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
=====								
RED ROCK RIVER near Monida (2)	APR-JUL	112	132	145	150	158	178	97
	APR-SEP	120	144	160	152	176	200	105
BEAVERHEAD RIVER near Grant (2)	APR-JUL	197	225	245	186	265	293	132
	APR-SEP	233	270	295	190	320	357	155
BEAVERHEAD RIVER at Barretts (2)	APR-JUL	238	269	290	169	311	342	172
	APR-SEP	288	322	345	170	368	402	203
RUBY RIVER near Alder	APR-JUL	95	113	125	151	137	155	83
	APR-SEP	115	136	150	152	164	185	99
BIG HOLE RIVER near Melrose	APR-JUL	827	960	1050	164	1140	1273	641
	APR-SEP	895	1035	1130	162	1225	1365	697
BOULDER RIVER near Boulder	APR-JUL	88	110	125	147	140	162	85
	APR-SEP	97	120	135	148	150	173	91
WILLOW CREEK near Harrison	APR-JUL	18.1	25	30	170	35	42	17.7
	APR-SEP	20	28	34	170	40	48	20
JEFFERSON RIVER near Three Forks (2)	APR-JUL	1222	1423	1560	170	1697	1898	920
	APR-SEP	1382	1598	1745	172	1892	2108	1012

JEFFERSON RIVER BASIN					JEFFERSON RIVER BASIN			
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***				Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg				
LIMA	84.0	46.9	48.9	33.4	BEAVERHEAD	8	147	176
CLARK CANYON	255.6	156.8	156.0	144.7	RUBY	4	133	153
RUBY RIVER	38.8	23.8	25.6	23.8	BIGHOLE	9	127	167
					BOULDER	7	164	158
					JEFFERSON RIVER BASIN	23	142	168

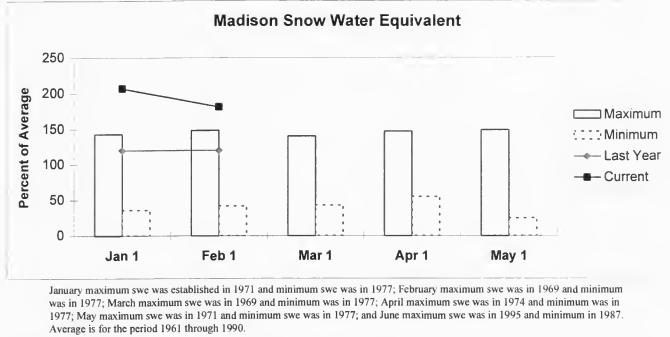
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

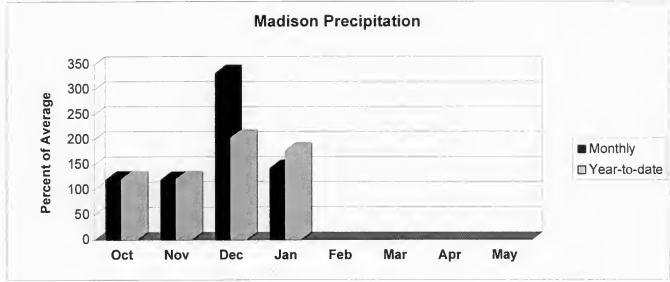
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Madison River Basin

Snowpack conditions in the Madison River Basin were well above average. Snow water content was 81 percent above average and 50 percent above last year. This has set a new record that was previously set in 1969 and was 48 percent above average.



Mountain and valley precipitation during January was 41 percent above average and 19 percent above last year. Water year precipitation for the basin, beginning October 1, 1996, was 78 percent above average and 44 percent above last year.



Reservoir storage on the last day of January was 3 percent above average and 2 percent above last year. Ennis Lake storage was 15 percent below average and 5 percent below last year and Hebgen Lake storage was 5 percent above average and 3 percent above last year. Reservoirs will be drawn down earlier this year in anticipation of record snowpack this year.

Streamflows, for the period April through July, are forecast to be 44 percent above average and 28 percent ABOVE last years forecasts. The Madison River near McAllister is forecast to set a new April-July record of 965,000 acre-feet. The previous record was 963,000 set in 1913.

Surface Water Supply Index (SWSI) was +4.0 for the Madison River.

MADISON RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		<===== Wetter =====>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable)	(% AVG.)	(1000AF)	(1000AF)	
MADISON RIVER near Grayling (2)	APR-JUL	475	514	540	142	566	605	380
	APR-SEP	596	643	675	139	707	754	486
MADISON RIVER near McAllister (2)	APR-JUL	848	918	965	146	1012	1082	662
	APR-SEP	1076	1153	1205	145	1257	1334	831

MADISON RIVER BASIN Reservoir Storage (1000 AF) - End of January					MADISON RIVER BASIN Watershed Snowpack Analysis - February 1, 1997		
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg			
ENNIS LAKE	41.0	28.9	30.3	34.0	MADISON abv HEBGEN LAKE	6	155 184
HEBGEN LAKE	377.5	259.1	252.0	246.8	MADISON blw HEBGEN LAKE	7	143 174
					MADISON RIVER BASIN	13	149 179

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

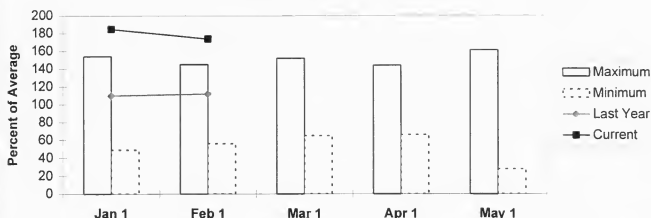
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Gallatin River Basin

Snowpack conditions in the Gallatin River Basin were well above average. Snow water content was 74 percent above average and 53 percent above last year. This has set a new record previously set in 1965 and was 45 percent above average.

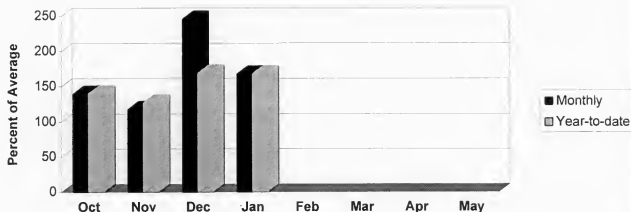
Gallatin Snow Water Equivalent



January maximum swe was established in 1968 and minimum swe was in 1966; February maximum swe was in 1965 and minimum was in 1981; March maximum swe was in 1965 and minimum was in 1977 and 1987; April maximum swe was in 1971 and minimum was in 1987; May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 1975 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during January was 64 percent above average and 41 percent above last year. Valley precipitation during January was 68 percent above average and 42 percent above last year. Water year precipitation for the basin, beginning October 1, 1996, was 68 percent above average and 32 percent above last year.

Gallatin Precipitation



Middle Creek storage on the last day of January was 92 percent above average. Reservoir storage will be drawn down earlier than normal this year in anticipation of high spring inflow from the large snowpack.

Streamflows, for the period April through July, are forecast to be 50 percent above average and 39 percent above last years forecasts. The Gallatin River near Gateway is forecast to set a new April-July record of 630,000 acre-feet. The previous record was 623,200 acre-feet in 1971. The Gallatin River at Logan is forecast to set a new April-July record of 785,000 acre-feet. The previous record was 768,300 acre-feet in 1975.

Surface Water Supply Index (SWSI) was +3.7 for the Gallatin River.

GALLATIN RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
=====								
GALLATIN RIVER near Gateway	APR-JUL	549	597	630	143	663	711	441
	APR-SEP	647	699	735	142	771	823	518
=====								
E & W FK HYALITE CREEK near Bozeman	APR-JUL	26	29	31	135	33	37	23
	APR-SEP	30	34	36	139	38	42	26
=====								
HYALITE CREEK near Bozeman (2)	APR-JUL	39	44	48	133	52	57	36
	APR-SEP	46	52	56	133	60	66	42
=====								
GALLATIN RIVER at Logan (2)	APR-JUL	643	728	785	158	842	927	498
	APR-SEP	753	840	900	155	960	1047	581

GALLATIN RIVER BASIN					GALLATIN RIVER BASIN			
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MIDDLE CREEK	10.2	6.9	--	3.6	UPPER GALLATIN	4	148	188
					HYALITE	3	157	154
					BRIDGER	3	158	171
					GALLATIN RIVER BASIN	10	153	174
					MISSOURI HEADWATERS	40	150	173

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

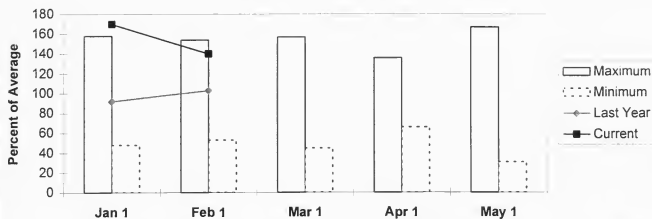
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

Missouri Mainstem River Basin

Snowpack conditions for the Missouri Mainstem River Basin were well above average. Snow water content was 43 percent above average and 46 percent above last year. Snow water content in the Headwaters Mainstem was 40 percent above average and 34 percent above last year; the Sun-Teton-Marias was 55 percent above average and 46 percent above last year; and the Smith-Judith-Musselshell was 40 percent above average and 43 percent above last year.

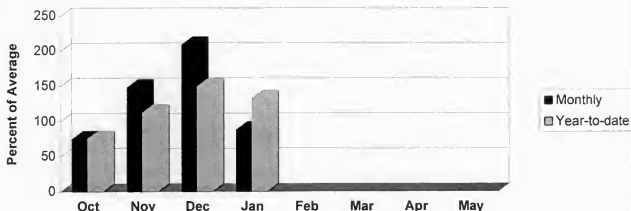
Headwaters Mainstem Snow Water Equivalent



January maximum swe was established in 1978 and minimum swe in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1961; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during January was 10 percent below average and 28 percent below last year. Valley precipitation during January was 20 percent below average and 30 percent below last year. Water year precipitation for the basin, beginning October 1, 1996, was 32 percent above average and 17 percent above last year.

Headwaters Mainstem Precipitation



Reservoir storage on the last day of January was 3 percent below average and 6 percent below last year. Canyon Ferry Lake storage was 4 percent below average and 7 percent above last year; Helena Valley storage was 34 percent above average and 29 percent above last year; Lake Helena storage was 8 percent above average and 2 percent above last year; Hauser & Helena storage was 3 percent above average and the same as last year; Holter Lake storage was 11 percent above average and the same as last year; and Fort Peck Lake storage was 3 percent above average and 2 percent below last year. Reservoirs will be drawn down earlier than normal this year in anticipation of the large inflow expected this spring from record snowpack.

Streamflows, for the period April through July, are forecast to be 71 percent above average 46 percent above last years forecasts. The Missouri River at Toston is forecast to set a new April-July record of 3,300,000 acre-feet. The previous record was 3,189,000 acre-feet in 1975.

Surface Water Supply Indexes (SWSI's) were +3.7 in the Missouri River above Canyon Ferry; +3.7 in the Missouri River below Canyon Ferry; +3.4 in the Missouri River above Fort Peck; and +3.4 in the Missouri River below Fort Peck.

MISSOURI MAINSTEM RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<----- Drier ----->>>>		Future Conditions		<----- Wetter ----->		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
MISSOURI RIVER at Toston (2)	APR-JUL	2520	2985	3300	159	3615	4080	2075
	APR-SEP	3189	3526	3860	160	4194	4518	2416
PRICKLY PEAR CREEK near Clancy	APR-JUL	11.2	21	28	120	34	44	23
	APR-SEP	13.6	25	32	119	39	50	27
SUN RIVER at Gibson Dam (2)	APR-JUL	536	616	670	140	724	804	478
	APR-SEP	589	673	730	139	787	871	526
MISSOURI RIVER at Fort Benton (2)	APR-JUL	3905	4676	5200	168	5724	6495	3087
	APR-SEP	5002	5669	6220	169	6771	7430	3678
MARIAS RIVER near Shelby (2)	APR-JUL	516	623	695	156	767	874	447
	APR-SEP	567	676	750	154	824	933	487
MISSOURI RIVER at Virgelle (2)	APR-JUL	4950	5635	6100	170	6565	7250	3595
	APR-SEP	5735	6746	7200	171	7654	8940	4217
MISSOURI RIVER near Landusky (2)	APR-JUL	5822	6404	6800	175	7196	7778	3897
	APR-SEP	6412	7700	8070	176	8440	10030	4580
MISSOURI RIVER below Fort Peck (2)	APR-JUL	5941	6631	7100	177	7569	8259	4015
	APR-SEP	6388	7691	8140	177	8589	10203	4596
LAKE SAKAKAWEA Inflow (2)	APR-JUL	13391	15242	16500	167	17758	19609	9897
	APR-SEP	15431	17572	19100	168	20628	22919	11346

MISSOURI MAINSTEM RIVER BASIN Reservoir Storage (1000 AF) - End of January					MISSOURI MAINSTEM RIVER BASIN Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CANYON FERRY LAKE	2043.0	1528.0	1637.0	1596.0	MISSOURI MAINSTEM	9	134	140
HELENA VALLEY	9.2	6.3	4.9	4.7	SMITH-JUDITH-MUSSELSHELL	9	143	140
LAKE HELENA	10.4	11.1	10.9	10.3	SUN-TETON-MARIAS	7	146	155
HAUSER & HELENA	61.9	63.2	63.1	61.3	MISSOURI abv FT PECK	24	142	145
HOLTER LAKE	81.9	81.2	81.2	72.9	MILK RIVER BASIN	6	243	119
FORT PECK LAKE (MAP)	18.9	15.3	15.6	14.9	MISSOURI MAINSTEM BASIN	29	146	141

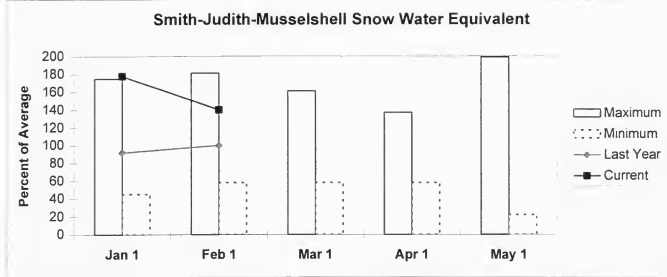
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

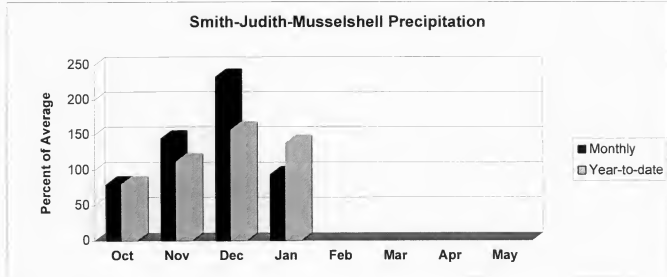
Smith-Judith-Musselshell River Basins

Snowpack conditions in the Smith-Judith-Musselshell River Basins were well above average. Snow water content in the Smith River Basin was 50 percent above average and 32 percent above last year; in the Judith River Basin was 28 percent above average and 37 percent above last year; and in the Musselshell River Basin was 32 percent above average and 51 percent above last year.



January maximum swe was established in 1978 and minimum swe in 1988; February maximum swe was in 1978 and minimum swe was in 1987; March maximum swe was in 1978 and minimum swe was in 1987; April maximum swe was in 1970 and minimum swe was in 1992; and May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation in the Smith River Basin during January was 1 percent below average and 25 percent below last year; in the Judith River Basin during January was 7 percent below average and 16 percent below last year; and in the Musselshell River Basin during January was 3 percent below average and 53 percent below last year. Water year precipitation, beginning October 1, 1996, in the Smith-Judith-Musselshell River Basins was 38 percent above average and 21 percent above last year.



Reservoir storage on the last day of January was 4 percent above average and 27 percent below last year. Smith River storage was 8 percent below average and 35 percent below last year; Newlan Creek storage [NO REPORT]; Bair storage was 34 percent below average and 52 percent below last year; Martinsdale storage was 8 percent above average and 27 percent below last year; and Deadman's Basin was 8 percent above average and 24 percent below last year.

Streamflows, for the period April through July, are forecast to be 10 percent above average and 7 percent above last years forecasts.

Surface Water Supply Index (SWSI) was +3.4 in the Smith River and +2.4 in the Musselshell River.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>> Future Conditions >>===== Wetter =====>>				30-Yr Avg. (1000AF)		
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)		30% (1000AF)	10% (1000AF)
SHEEP CREEK nr White Sulphur Springs	APR-JUL	20	23	25	138	27	30	18.1
	APR-SEP	24	27	29	138	31	34	21
SMITH RIVER blw Eagle Creek	APR-JUL	93	121	140	136	159	187	103
	APR-SEP	116	148	170	137	192	224	124
NF MUSSELSHELL near Delpine	APR-JUL	5.16	6.55	7.50	156	8.45	9.84	4.80
	APR-SEP	6.12	7.68	8.75	156	9.82	11.38	5.60
SF MUSSELSHELL abv Martinsdale	APR-JUL	44	64	78	150	92	112	52
	APR-SEP	49	70	84	150	98	119	56

SMITH-JUDITH-MUSSELSHELL RIVER BASINS Reservoir Storage (1000 AF) - End of January					SMITH-JUDITH-MUSSELSHELL RIVER BASINS Watershed Snowpack Analysis - February 1, 1997		
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
	Year	This Year	Last Year	Avg			
SMITH RIVER	10.6	5.8	8.9	6.3	SMITH	4	132
NEWLAN CREEK		NO REPORT			JUDITH	5	137
BAIR	7.0	2.5	5.2	3.8	MUSSELSHELL	4	151
MARTINSDALE	23.1	9.9	13.6	9.2	SMITH-JUDITH-MUSSELSHELL	9	143
DEADMAN'S BASIN	72.2	46.3	60.7	43.0			140

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

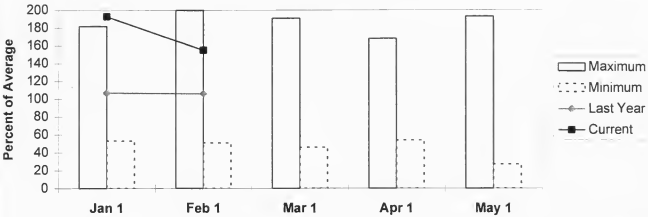
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Sun-Teton-Marias River Basins

Snowpack conditions in the Sun-Teton-Marias River Basin were well above average. Snow water content in the Sun River Basin was 49 percent above average and 36 percent above last year; the Teton River Basin was 43 percent above average and 34 percent above last year; and the Marias River Basin was 56 percent above average and 47 percent above last year.

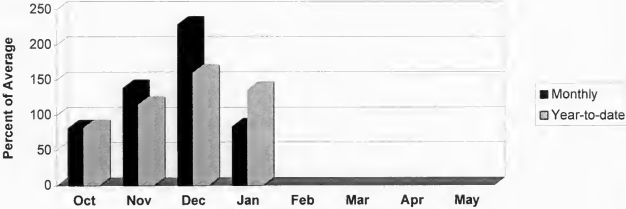
Sun-Teton-Marias Snow Water Equivalent



January maximum swe was established in 1991 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1984; April maximum swe was in 1972 and minimum swe was in 1984; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation during January in the Sun River Basin was 11 percent below average and 18 percent below last year; in the Teton River Basin was 23 percent below average and 23 percent below last year; and in the Marias River Basin was 14 percent below average and 17 percent below last year. Water year precipitation for the Sun-Teton-Marias river basins, beginning October 1, 1996, was 36 percent above average and the same as last year.

Sun-Teton-Marias Precipitation



Reservoir storage on the last day of January was 19 percent above average and 15 percent below last year. Gibson storage was 19 percent below average and 31 percent below last year; Pishkun storage was 102 percent above average and 74 percent above last year; Willow Creek storage is low until repairs are completed; Lower Two Medicine Lake storage was 40 percent below average and 62 percent below last year; Four Horns Lake storage was 1 percent below average and 68 percent above last year; Swift storage was 10 percent below average and 45 percent below last year; Lake Frances storage was 2 percent above average and 25 percent below last year; and Lake Elwell (Tiber) storage was 27 percent above average and 12 percent below last year.

Streamflows, for the period April through July, are forecast to be 47 percent above average and 32 percent above last years forecasts.

Surface Water Supply Indexes (SWSI's) were +3.2 in the Sun River; +3.0 in the Teton River; +3.3 in the Birch/Dupuyer Creeks; and +3.4 in the Marias River.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		>>===== Wetter =====<<		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
SUN RIVER at Gibson Dam (2)	APR-JUL	536	616	670	140	724	804	478
	APR-SEP	589	673	730	139	787	871	526
TWO MEDICINE RIVER near Browning (2)	APR-JUL	233	282	315	147	348	397	215
	APR-SEP	248	297	330	145	363	412	228
BADGER CREEK near Browning (2)	APR-JUL	104	126	140	135	154	176	104
	APR-SEP	122	144	160	133	176	198	120
SWIFT RESERVOIR Inflow near Dupuyer	APR-JUL	66	82	92	135	103	118	68
	APR-SEP	79	96	107	134	118	135	80
DUPUYER CREEK near Valier	APR-JUL	10.7	19.8	26	168	32	41	15.5
	APR-SEP	12.9	23	29	167	36	45	17.4
CUT BANK CREEK at Cut Bank	APR-JUL	115	130	140	161	150	166	87
	APR-SEP	131	145	155	162	165	180	96
MARIAS RIVER near Shelby (2)	APR-JUL	516	623	695	156	767	874	447
	APR-SEP	567	676	750	154	824	933	487

SUN-TETON-MARIAS RIVER BASINS Reservoir Storage (1000 AF) - End of January					SUN-TETON-MARIAS RIVER BASINS Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number Of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GIBSON	99.1	35.9	52.1	44.2	SUN	2	136	149
PISHKUN	32.0	35.8	20.6	17.7	TETON	3	134	143
WILLOW CREEK	32.2	5.0	26.5	21.2	MARIAS	4	147	156
LOWER TWO MEDICINE LAKE	11.9	4.0	10.5	6.7	SUN-TETON-MARIAS	7	146	155
FOUR HORNS LAKE	19.2	12.3	7.3	12.4				
SWIFT	30.0	13.8	25.2	15.3				
LAKE FRANCES	112.0	71.3	95.4	69.6				
LAKE ELMELL (TIBER)	1347.0	737.7	836.6	583.0				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

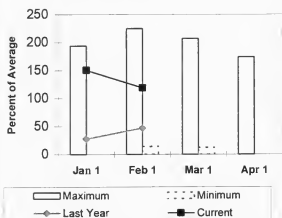
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

St. Mary and Milk River Basins

Snowpack conditions in the St. Mary and Milk River Basins were well above average. Snow water content in the St. Mary River Basin was 48 percent above average and 31 percent above last year and in the Milk River Basin (Cypress Hills in Canada and Bearpaw Mountains in Montana) was 25 percent above average and 109 percent above last year.

Bearpaw Mountains Snow Water Equivalent

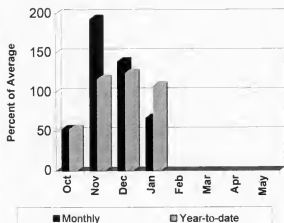


Bearpaw - January maximum swe was established in 1978 and minimum swe was in 1981; February maximum swe was 1978 and minimum swe was in 1973; March maximum swe was 1978 and minimum swe was 1981; April maximum swe was in 1975 and minimum swe was in 1983; May maximum swe was 1975 and the minimum has occurred in several years. Average is for the period 1961 through 1990.

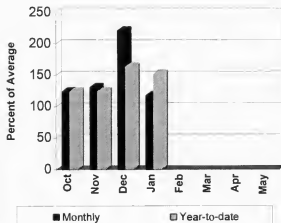
St. Mary - January maximum swe was established in 1991 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1992; May maximum swe was in 1992 and minimum swe was in 1977; and June maximum swe was in 1991 and minimum swe was 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation in the St. Mary River Basin during January was 18 percent above average and 4 percent above last year and in the Milk River Basin was 33 percent below average and 40 percent below last year. Water year precipitation for the St. Mary and Milk River Basins, beginning October 1, 1996, was 36 percent above average and 11 percent below last year.

Bearpaw Mountains Precipitation



St. Mary Precipitation



Reservoir storage on the last day of January was 12 percent above average and 5 percent below last year. Lake Sherburne storage was 22 percent above average and 4 percent below last year; Fresno storage was 24 percent above average and 14 percent below last year; Beaver Creek storage was 61 percent above average and 4 percent above last year; and Nelson storage was 12 percent below average and 17 percent above last year.

Streamflows, for the period April through July, in the St. Mary are forecast to be 21 percent above average and 13 percent above last years forecasts and for the period March through July in the Milk are forecast to be 26 percent above average and 25 percent above last years forecasts.

Surface Water Supply Index (SWSI) was +3.0 in the Milk River.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - February 1, 1997

		<<===== Drier ===== Future Conditions ===== Wetter =====>>							
Forecast Point	Forecast Period	Chance Of Exceeding *						30-Yr Avg. (1000AF)	
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	% AVG.)	30% (1000AF)	10% (1000AF)		
SWIFTCURRENT CREEK at Sherburne (2)	APR-JUL	104	114	120	112	126	136	107	
	APR-SEP	125	134	140	112	146	155	125	
ST. MARY RIVER near Babb	APR-JUL	439	472	495	125	518	551	395	
	APR-SEP	530	566	590	127	614	650	463	
ST. MARY RIVER at US/CAN Border (2)	APR-JUL	470	518	550	119	582	630	462	
	APR-SEP	569	617	650	121	683	731	539	
MILK RIVER at Western Crossing	MAR-JUL	34	45	52	118	59	70	44	
	MAR-SEP	39	49	56	122	63	74	46	
MILK RIVER at Eastern Crossing (2)	MAR-JUL	61	87	105	131	123	149	80	
	MAR-SEP	71	97	115	131	133	159	88	
BEAVER CREEK near Havre	MAR-JUL	3.4	8.8	12.5	121	16.2	22	10.3	

ST. MARY and MILK RIVER BASINS Reservoir Storage (1000 AF) - End of January					ST. MARY and MILK RIVER BASINS Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
LAKE SHERBURNE	64.3	29.2	30.4	24.0	ST. MARY	2	131	148
FRESNO	127.0	63.3	73.7	51.2	BEARPAW MOUNTAINS	6	243	119
BEAVER CREEK	3.5	2.9	2.8	1.8	CYPRESS HILLS, CANADA	0	0	0
NELSON	66.8	32.1	27.5	36.4	MILK RIVER BASIN	6	243	119
					ST. MARY & MILK BASINS	8	147	139

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

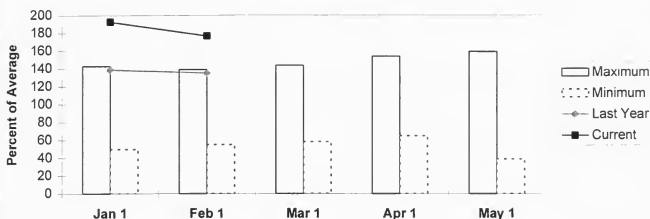
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

Upper Yellowstone River Basin

Snowpack conditions in the Upper Yellowstone River Basin were well above average. Snow water content was 77 percent above average and 29 percent above last year. This has set a new record that was previously set in 1972 and was 39 percent above average.

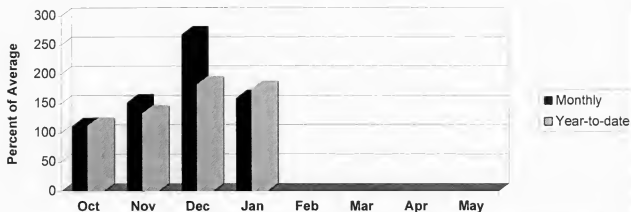
Upper Yellowstone Snow Water Equivalent



January maximum swe was established in 1976 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1971 and minimum swe was in 1977; April maximum swe was in 1971 and minimum swe was in 1981; May maximum swe was in 1971 and minimum swe was in 1987; and June maximum swe was in 1982 and minimum swe was in 1987 and 1994. Average is for the period 1961 through 1990.

Mountain precipitation during January was 59 percent above average and 20 percent above last year. Valley precipitation during January was 37 percent above average and 20 percent above last year. Water year precipitation for the basin, beginning October 1, 1996, was 74 percent above average and 24 percent above last year.

Upper Yellowstone Precipitation



Reservoir storage on the last day of January was 4 percent above average and 10 percent above last year. Mystic Lake storage was 34 percent above average and 10 percent above last year and Cooney storage was 27 percent above average and 9 percent above last year.

Streamflows, for the period April through July, are forecast to be 49 percent above average and 23 percent above last years forecasts. The Yellowstone River at Corwin Springs is forecast to set a new April-July record of 2,400,000 acre-feet, previously set at 2,299,000 acre-feet in 1974; the Yellowstone River near Livingston is forecast to set a new April-July record of 2,900,000 acre-feet, previously set at 2,629,000 acre-feet in 1971; the Yellowstone River at Billings is forecast to set a new April-July record of 5,465,000 acre-feet, previously set at 5,464,000 in 1975.

Surface Water Supply Indexes (SWSI's) were +4.0 in the Yellowstone River above Livingston; +3.7 in the Shields River; +4.0 in the Boulder River; +3.8 in the Stillwater River; +3.8 in the Rock/Red Lodge Creeks; +4.0 in the Clarks Fork River; and +4.0 in the Yellowstone River above Bighorn River.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - February 1, 1997

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		>>----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)	* (% AVG.)	30%	10%	
		(1000AF)	(1000AF)	(1000AF)		(1000AF)	(1000AF)	
YELLOWSTONE RIVER at Corwin Springs	APR-JUL	2185	2313	2400	149	2487	2615	1609
	APR-SEP	2623	2788	2900	150	3012	3177	1937
YELLOWSTONE RIVER near Livingston	APR-JUL	2545	2697	2800	151	2903	3055	1855
	APR-SEP	3087	3268	3390	151	3512	3693	2241
SHIELDS RIVER near Livingston	APR-JUL	193	227	250	154	273	307	162
	APR-SEP	216	251	275	154	299	334	179
BOULDER RIVER at Big Timber	APR-JUL	383	423	450	134	477	517	335
	APR-SEP	432	473	500	137	527	568	364
WEST ROSEBUD CREEK near Roscoe (2)	APR-JUL	68	75	80	131	85	92	61
	APR-SEP	92	100	105	133	110	118	79
STILLWATER RIVER nr Absarokee (2)	APR-JUL	539	620	675	136	730	811	498
	APR-SEP	664	745	800	135	855	936	593
CLARKS FORK RIVER near Belfry	APR-JUL	612	679	725	136	771	838	532
	APR-SEP	675	755	810	137	865	945	590
RED LODGE CREEK blw Cooney Res (2)	APR-JUL	35	53	65	138	77	95	47
	APR-SEP	45	63	75	132	87	105	57
YELLOWSTONE RIVER at Billings (2)	APR-JUL	4648	5134	5465	153	5796	6282	3577
	APR-SEP	5521	6044	6400	152	6756	7279	4211

UPPER YELLOWSTONE RIVER BASIN Reservoir Storage (1000 AF) - End of January					UPPER YELLOWSTONE RIVER BASIN Watershed Snowpack Analysis - February 1, 1997		
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg			
MYSTIC LAKE	21.0	5.6	5.1	8.5	abv LIVINGSTON	13	128
COONEY	27.4	18.5	16.9	14.6	SHIELDS	5	163
					BOULDER-STILLWATER	3	136
					CLARK'S FORK-ROCK CREEK	9	116
					UPPER YELLOWSTONE RIVER	26	129

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

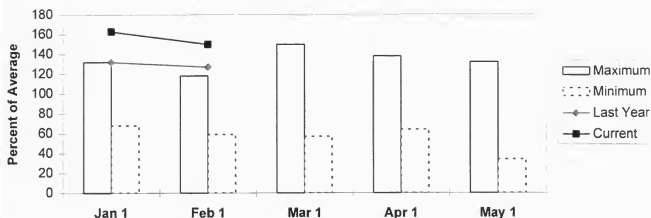
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Lower Yellowstone River Basin

Wyoming snowpack conditions for the Lower Yellowstone River Basin were well above average. Snow water content was 50 percent above average and 18 percent above last year. This has set a new record that was previously set in 1996 and was 27 percent above average.

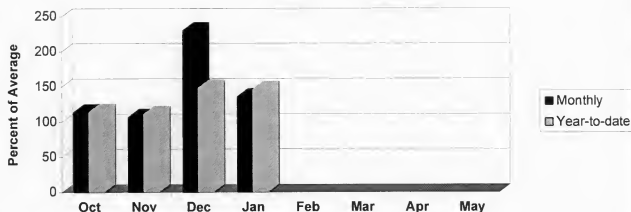
Lower Yellowstone Snow Water Equivalent



January maximum swe was established in 1996 and minimum swe was in 1981; February maximum swe was in 1981 and minimum swe was in 1981; March maximum swe was in 1986 and minimum swe was in 1977; April maximum swe was in 1986 and minimum swe was in 1981; May maximum swe was in 1986 and minimum swe was in 1981; and June maximum swe was in 1995 and minimum swe was in 1994. Average is for the period 1961 through 1990.

Mountain and valley precipitation during January was 36 percent above average and 1 percent above last year. Water year precipitation for the basin, beginning October 1, 1996, was 46 percent above average and 13 percent above last year.

Lower Yellowstone Precipitation



Reservoir storage on the last day of January was 2 percent below average and 3 percent below last year. Bighorn Lake storage was 2 percent below average and 3 percent below last year and Tongue River storage was 32 percent below average and 18 percent below last year. Bighorn Lake will be drawn down earlier than normal to make room for the anticipated large inflow this spring.

Streamflows, for the period April through July, are forecast to be 56 percent above average and 24 percent above last years forecasts. The Yellowstone River at Sidney is forecast to set a new April-July record of 9,800,000 acre-feet, previously set at 8,978,000 acre-feet in 1965.

Surface Water Supply Indexes (SWSI's) were +3.6 in the Bighorn River below Bighorn Lake; +1.9 in the Little Bighorn River; +3.6 in the Yellowstone River below Bighorn River; +1.6 in the Tongue River; and +1.9 in the Powder River.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - February 1, 1997

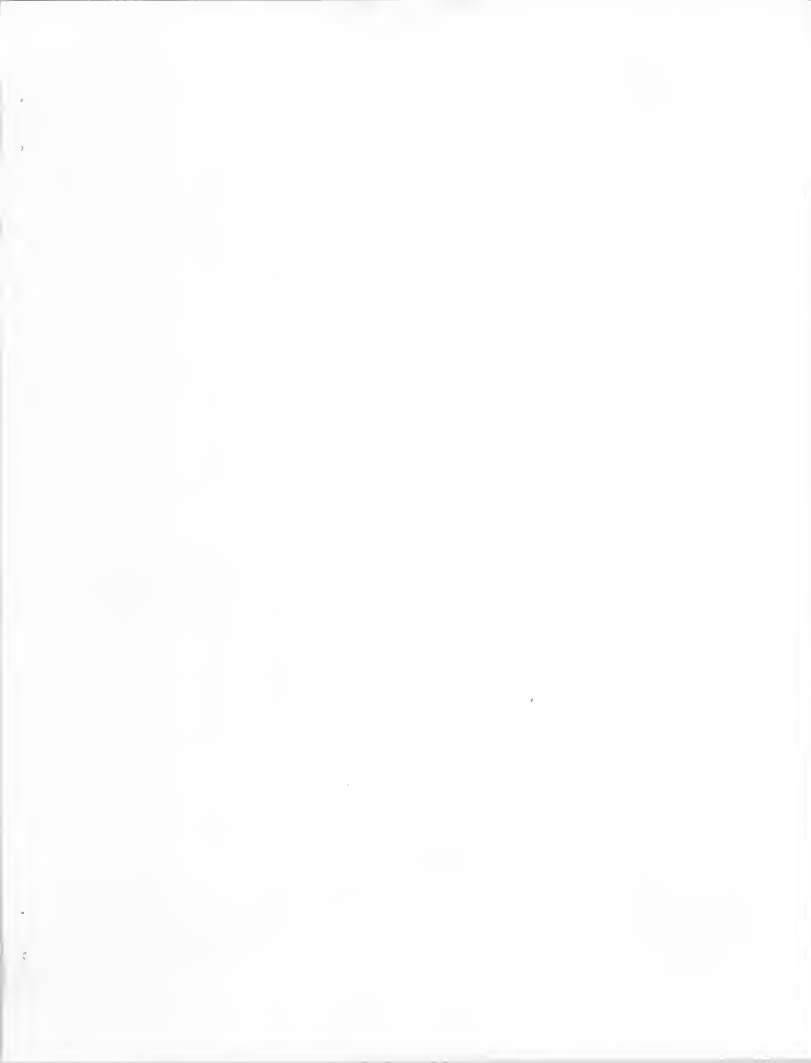
Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		>>===== Wetter =====>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable)	(% AVG.)	(1000AF)	(1000AF)	
YELLOWSTONE RIVER at Billings (2)	APR-JUL	4648	5134	5465	153	5796	6282	3577
	APR-SEP	5521	6044	6400	152	6756	7279	4211
BIGHORN RIVER nr St. Xavier (2)	APR-JUL	1946	2318	2570	156	2822	3194	1645
	APR-SEP	2170	2561	2827	156	3093	3484	1810
LITTLE BIGHORN RIVER nr Hardin	APR-JUL	104	146	175	125	204	246	140
	APR-SEP	116	163	195	125	227	274	156
TONGUE RIVER stateline nr Decker (2)	APR-JUL	171	224	260	113	296	349	230
	APR-SEP	143	243	280	112	317	375	250
YELLOWSTONE RIVER at Miles City (2)	APR-JUL	6696	7684	8355	154	9026	10014	5431
	APR-SEP	7810	8935	9700	154	10465	11590	6281
POWDER RIVER at Moorhead	APR-JUL	134	179	210	100	241	286	211
	APR-SEP	160	203	232	100	261	304	232
POWDER RIVER near Locate	APR-JUL	158	207	240	95	273	322	252
	APR-SEP	80	218	260	95	302	399	275
YELLOWSTONE RIVER nr Sidney (2)	APR-JUL	7995	9070	9800	165	10530	11605	5925
	APR-SEP	8762	9752	10600	162	11448	12359	6539

LOWER YELLOWSTONE RIVER BASIN					LOWER YELLOWSTONE RIVER BASIN			
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 1997			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BIGHORN LAKE	1356.0	826.4	848.9	839.2	WIND RIVER (Wyoming)	20	124	168
TONGUE RIVER	68.0	18.4	22.4	27.1	SHOSHONE RIVER (Wyoming)	7	113	177
					BIGHORN RIVER (Wyoming)	21	114	148
					LITTLE BIGHORN (Wyoming)	3	115	118
					TONGUE RIVER (Wyoming)	9	109	123
					POWDER RIVER (Wyoming)	8	124	129
					LOWER YELLOWSTONE RIVER	48	119	150
					YELLOWSTONE BASIN	69	124	161

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.





Federal Building, Room 443
10 E. Babcock
Bozeman, MT 59715



Montana
Basin Outlook Report
Natural Resources Conservation Service
Bozeman, MT

